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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,695	05/22/2001	Terence J. Murphy	TI-31565	5300

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,695

Applicant(s)

MURPHY ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 7-26 is/are pending in the application.
- 4a) Of the above claim(s) 22-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “18” has been used to designate both disk (**page 6, paragraph 28, line 4**) and data transducer (**page 6, paragraph 25, line 4**); reference character “72” has been used to designate both analog ground (**page 8, paragraph 32, line 6**) and voltage source (**page 8, paragraph 33, line 5**). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the voltage supply other than a voltage supply for the piezo element as disclosed in claim 3, 10, 17 and the feedback path disclosed in claim 6, 13, 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, 10, 17 (repeated claims) what is meant by “a voltage supply other than a voltage supply” for the piezo element? Is the voltage supply used for other components? Or are there two voltage supplies, one being the piezo element and the other voltage supply another voltage supply for the other components “other than a voltage supply” for the piezo element?

In claim 6, 13, 20 (repeated claims) what is meant by “selectively disable” the first circuit? Is the first circuit disabled when the second circuit is not disabled? Or are the first and second circuit disabled at the same time?

Also, what is meant by the second switch providing a feedback path from the second circuit to an input to the second circuit? Where is the feedback starting?

Is the integrated circuit operating in voltage mode only? What determines the integrated circuit to be operating in voltage mode?

In claim 15 which part of the circuit is functioning as the first current mirror? The AB amplifier (figure 2)? From the figures, it seems like if only one current mirror has been point out. From the specifications, it may seem like if current mirror 50 is disclosed and described. The specifications are not clear enough as to which is the first current mirror and which is the second current mirror, which mirrors the current from the first current mirror. From the specifications, elements 96, 98 are described to be “wells” and elements 104, 106, “amplifiers”. The specifications are not clear enough as to describe such elements as a first and second current source nor that the second current source mirrors the current of the first source (elements 104, 105, 96, 98). It may seem like if the only current mirror described by the specifications is current mirror 50.

In claim 20, which are the switches disabling the first and second current mirrors? From figure 2, it may seem like if the transistors 60 and 62 are located at the output of the amplifier 46. It is not clear from the specifications that such switches are affecting the current mirrors.

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 7-10, 13-17, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondou in view of Stuebing et al.

Kondou discloses an integrated circuit having a first current source 106 and second current source 107 wherein a first switch SW_L and second switch SW_T can disable the current mirror circuits (see figure 2). Also, an external capacitor C is disclosed, which is part of circuit 108 and a piezo element 113 is disclosed (see figure 4). Moreover, another voltage source V_{cc} (+30V) is disclosed other than the piezo element and the first circuit has analog grounds (see figure 4).

However, Kondou does not disclose cascading several current sources.

On the other hand, Stuebing et al teaches for the purpose of obtaining a wide range of accurate time signals that it is well known in the art to place current sources in a cascade mode (see figure 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an integrated circuit as disclosed by Kondou and

to modify the invention by placing the current sources in cascade mode for the purpose of obtaining a wide range of accurate time signals as disclosed by Stuebing et al.

7. Claims 5, 6, 11, 12, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondou in view of Stuebing et al as applied to claims 1, 8 and 15 above, and further in view of ordinary skill in the art.

The combined integrated circuit discloses all of the limitations above. However, the combined integrated circuit does not disclose the mirror ratios of 10:1 and 6.125:1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover those optimum ratios, since it has been held that discovering the optimum value of result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

8. Applicant's arguments filed 08/26/02 have been fully considered but they are not persuasive.

Kondou teaches that current mirrors may be used in conjunction with switches and piezoelectric devices. Also, it is known that using current mirrors for mirroring the current of another current mirror is well known in the art. In this case, Stuebing et al discloses in figure 6, a current mirror 504, 502, transistors Q5, Q30 in which the current may be mirrored (column 11, lines 59-62 & column 12, lines 7-22, 39-42). Anyone with ordinary skill in the art would know from the analysis of figure 6 that there are at least two current mirrors portions with mirrored current.

Also, It should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In re Danly, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In Hewlett-Packard Co v Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does." (emphases in original). To emphasize the point further, the court

added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

That is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim, regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention.

9. Applicant's arguments with respect to claims 5, 6, 11, 12, 18 and 19 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. In this case, more specifically, what makes the ranges of those ratios disclosed in the above claims unique from any prior art and why it would not be within the skill of one of ordinary skill in the art to discover those ratios?

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is

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assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

October 15, 2002



JENNIFER J. GARCIA
SENIOR RECEPTIONIST
OCT 15 2002